QTP 4N0X1C-9
May 2005

AEROSPACE MEDICAL SERVICE SPECIALTY - INDEPENDENT DUTY MEDICAL TECHNICIAN

EMERGENCY MEDICINE PROCEDURES

TRAINING THE BEST MEDICS FOR THE BEST AIR FORCE IN THE WORLD

383d TRAINING SQUADRON/XUFB
INDEPENDENT DUTY MEDICAL TECHNICIAN COURSE
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AEROSPACE MEDICAL SERVICE SPECIALTY - INDEPENDENT DUTY MEDICAL TECHNICAN

Volume 9 Emergency Medicine Procedures

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INTRODUCTION

1. These Qualification Training Packages (QTPs) were developed to enhance on-the-job training for Aerospace Medical Service Specialist, Independent Duty Medical Technician (IDMT), 4N0X1C personnel. As a trainer, the QTPs provide you with the breakdown of tasks into teachable elements. The teachable elements will help you to guide the trainee toward sufficient proficiency for task performance ***without assistance***. QTPs are also used by the task certifiers/certification official to evaluate trainees concerning tasks which need third-party certification.

2. Review each volume and identify which modules of QTPs are needed for the trainee's job position. Core task items are identified with the number "5" on the STS Column 2; these items are the minimum mandatory skills which are required for all 4N0X1 personnel to be proficient in performing. You have the flexibility to arrange training for each module in the order that you decide.

3. Review the subject-area tasks in each module with the trainee. Direct the trainee to review the training references to gain a better understanding of the objective for each module. If the trainee has any questions about the objective, clarify the behavior that is expected in the objective. Review the performance checklist with the trainee, and allow sufficient time to learn each step (some objectives may take longer to teach). Remember--the objective of each QTP is to standardize training and to allow sufficient time for the trainee to learn each task thoroughly in order to perform the task ***without assistance***.

4. When the trainee receives sufficient training and is ready to be evaluated on an objective, follow the evaluation instructions. The performance checklist must be used as you evaluate each task objective. When the trainee successfully accomplishes the objective, document task completion appropriately in the six-part folder.

5. The QTP task completion is to be annotated on AF Form 1098, *Special Task Certification and Recurring Training*, filed in part 3, section B of the six-part training folder. **NOTE:** The individual check lists are **not** filed in each member's six-part training folder. A master checklist is filed in part 3, section B of the master training plan (MTP) six-part training folder.

5. If the trainee does not accomplish the objective, review the areas which need remediation. Conduct a feedback concerning each module with the trainee, and document appropriately in the 6-part folder. As the trainer, once you are satisfied that the trainee is qualified to perform the task, he/she will be re-evaluated until the objective is met.

6. If the task which is being trained requires third party certification by a task certifier/certifying official, the trainer must first ensure that the trainee is qualified to perform the task ***without assistance***. The trainee then will be evaluated by a task certifier/certifying official. The tasks which require third party certification are denoted

with a "^" in Column 3E of the Career Field Education and Training Plan (CFETP). The qualification of training then is documented appropriately in the 6-part folder.

7. The QTPs are a necessary tool for standardizing refresher/sustainment training. Such standardization will benefit the CFETP training concept throughout each member's career. These documents also will be utilized for assessing/certifying the Aerospace Medical Service Specialist, IDMT, 4N0X1C, each time that he/she is arrives to a new duty station. The QTP developers' goal is to publish a usable document for certifying officials, trainers, and trainees for the purpose of enhancing on-the-job training for Aerospace Medical Service Specialist, IDMT personnel. We value your first hand expertise and we encourage your feedback. Direct all inquiries to:

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Volume 9 **Module 1.a**

AIRWAY MANAGEMENT: PERFORM CRICOIDTHYROIDOTOMY

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Airway Management

CFETP/STS REFERENCES: 18.12.2.1.3

EQUIPMENT REQUIRED:

1. Scalpel blade, #11 with handle
2. Hemostats, curved and straight Kelly
3. Endotracheal tube, size 4-6 or cuffed tracheal tube, size 4-6
4. Catheter over needle device, 14 gauge or larger
5. Supplemental oxygen equipment
6. Povidone-iodine, alcohol or similar antiseptic solution
7. 10 cc Syringe
8. Sterile drapes and dressings
9. Gloves
10. Suction apparatus
11. Adhesive tape, or other means to secure tube

TRAINING REFERENCES: 6, 7, 8

REMARKS/NOTES: Failure to correctly locate appropriate location for cricothyroidotomy immediately stops the test

OBJECTIVE:

1. Given the necessary equipment and an anatomical model, perform a needle cricothyroidotomy
2. Given scalpel and forceps demonstrate surgical cricothyroidotomy.

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

STEPS IN TASK PERFORMANCE:

1. Identify indications and contraindications for cricothyroidotomy
2. Identify landmarks used to perform procedure
3. Identify vital structures which may be injured by incorrect technique
4. Prepare site
5. Perform needle cricothyroidotomy
6. Perform incision cricothyroidotomy

ATTACHMENT: Performance checklist.

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's OJT record.

PERFORMANCE ITEM	SAT	UNSAT
PERFORM CRICOTHRIODOTOMY		
1. Identify indications for cricothyroidotomy		
a. Upper airway obstruction prohibiting ventilation or intubation		
b. Cervical spine injuries considered unacceptable for intubation		
2. Identify landmarks used to perform procedure		
a. Cricoid cartilage		
b. Thyroid cartilage		
c. Cricothyroid membrane		
3. Identify vital structures which may be injured by incorrect technique		
a. Carotid arteries		
b. Esophagus		
c. Trachea		
4. Place towel under patient's shoulders to hyperextend the neck. (if not contraindicated by suspected c-spine injury)		
5. Prepare site with antiseptic solution		
6. Perform needle cricothyroidotomy		
a. Select appropriate size catheter over needle device		
b. Identify cricothyroid membrane		
c. Stabilize cricothyroid area (thumb below, index on membrane, and middle above)		
d. Insert catheter over needle device 3-4mm		
e. Aspirate with syringe to ensure in airway		
f. Advance catheter and remove needle		
g. Recheck airflow in the catheter with syringe		
h. Supplement with high flow oxygen (flush)		
7. Perform incision cricothyroidotomy		
a. Select desired equipment		
b. Palpate cricothyroid membrane, clearly locate anatomical landmarks		
c. Stabilize cricothyroid area (as above...thumb, index and middle finger)		
d. Using #11 blade, incise transversely over the membrane; retract skin to expose cricothyroid membrane; puncture membrane.		
e. Insert forceps tip and enlarge opening 1cm laterally from midline		
f. Remove knife blade and keep forceps in place		
g. Insert 4 or 6mm endotracheal tube or cuffed tracheal tube		
h. Ventilate using high concentration oxygen – assess bilateral breath sounds		

PERFORMANCE ITEM	SAT	UNSAT
PERFORM CRICOTHRIODOTOMY - Continued		
i. Inflate cuff to prevent audible air leaks		
j. Secure tube		
k. Apply dressing to surgical site		
l. Suction airway to clear bleeding and secretions		
8. Describe improvised materials in place of ET tube		
*****CRITICAL CRITERIA**		
• Failure to verbalize appropriate body substance isolation precautions		
• Failure to recognize appropriate need for gaining airway access via the cricothyroid membrane		
• Failure to identify appropriate anatomical landmarks		
FINAL RESULT:		

Volume 9 **Module 1.b**

AIRWAY MANAGEMENT: PERFORM ENDOTRACHEAL INTUBATION

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Airway Management

CFETP/STS REFERENCES: 18.12.2.1.1

EQUIPMENT REQUIRED:

1. Anatomical intubation mannequin
2. Laryngoscope set, include, straight (Miller/Wisconsin) and curved (Mackintosh) blades
3. Endotracheal tubes, various sizes
4. Syringe, 10cc
5. Bag Valve Mask set with oxygen equipment
6. Suction apparatus
7. Carbon dioxide indicator for tube placement confirmation

TRAINING REFERENCES: 6, 8, 9

REMARKS/NOTES: Failure to demonstrate hyperventilation of the patient prior to intubation or interrupting ventilation in excess of 30 seconds are "NO GO" behaviors and the performance test must be stopped.

OBJECTIVE: Given the necessary equipment and anatomical intubation mannequin, perform an endotracheal intubation within 20 seconds of interrupting ventilation

EVALUATION INSTRUCTIONS: After the trainee has received instruction, allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

STEPS IN TASK PERFORMANCE:

1. Identify indications for endotracheal intubation
2. Select the appropriate equipment
3. Perform intubation

ATTACHMENT: Performance checklist.

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's OJT record.

PERFORMANCE ITEM	SAT	UNSAT
PERFORM ENDOTRACHEAL INTUBATION		
1. Identify indications for endotracheal intubation		
a. Need to control or assist ventilation		
b. Need to protect compromised airway		
2. Select the appropriate equipment		
a. Select appropriate laryngoscope handle		
b. Select laryngoscope blade, appropriate to the size of the person		
c. Select ET tube, appropriate to the size and age of the person		
3. Hyperoxygenate patient prior to intubation		
4. Instruct assistant to apply Sellick's maneuver or BURP		
5. Perform intubation		
a. Position Head		
b. Suction		
c. Ventilate with bag valve mask		
d. Insert laryngoscope on right side of mouth, sweep tongue to left while advancing blade		
(1) Tip of curved blade inserted into vallecula		
(2) Tip of straight blade over posterior epiglottis and into glottic opening		
(3) Lift laryngoscope up and away from patient without damaging teeth		
(4) Identify vocal chords		
e. Pass tube through vocal cords		
f. Inflate tube cuff		
g. Ventilate and verify tube placement		
(1) Auscultate for bilateral lung sounds during ventilation		
(2) Check epigastrum for gurgling during ventilation		
(3) Verify tube placement by second means (capnometer)		
(4) Deflate cuff and reposition tube, if necessary		
h. Secure tube in place		
***CRITICAL CRITERIA		
• Failure to verbalize appropriate body substance isolation precautions		
• Failure to provide high concentrations of oxygen		
• Failure to ventilate patient at a rate of 12 breaths per minute or greater		
• Interrupting ventilation for more than 30 seconds at any time		
• Failure to successfully intubate within 3 attempts		
• Using the teeth as a fulcrum for the laryngoscope blade		
• Failure to assure distal end of stylet does not extend past the distal end of the ET		
• Failure to assure proper tube placement by auscultation		
FINAL RESULT:		

Volume 9 **Module 1.c**

AIRWAY MANAGEMENT: PERFORM NEEDLE THORACENTHESIS FOR TENSION PNEUMOTHORAX

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Airway Management

CFETP/STS REFERENCES: 18.12.2.1.2

EQUIPMENT REQUIRED:

1. Povidone iodine or similar antiseptic solution
2. Syringe, 30-50cc
3. 3-way stop cock
4. Catheter over needle device, 14-gauge or larger
5. Flutter valve (improvised or commercial)
6. Suction (optional)

TRAINING REFERENCES: 8

OBJECTIVE: Given the necessary equipment and anatomical model, perform a needle thoracenthesis to decompress tension pnuemothorax

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

STEPS IN TASK PERFORMANCE:

1. Identify indications for needle thoracenthesis
2. Select the appropriate equipment
3. Select site for needle insertion
4. Prepare insertion site
5. Prepare needle for insertion
6. Insert catheter over needle device
7. Remove air from pleural space
8. Assess effectiveness

ATTACHMENT: Performance checklist.

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee’s OJT record.

PERFORMANCE ITEM	SAT	UNSAT
PERFORM NEEDLE THORACENTESIS FOR TENSION PNEUMOTHORAX		
1. Identify indications for needle thoracentesis		
a. Tension pneumothorax in a rapidly deteriorating patient		
b. Pneumothorax is present or suspected		
c. Evidence of significant hypoxia		
2. Select the appropriate equipment		
a. Antiseptic solution		
b. Syringe, 30-50cc		
c. 3 way stop cock		
d. Catheter over needle device, 14g or larger		
e. Additional as desired		
3. Select site for needle insertion (a or b)		
a. Mid-clavicular line, 2nd - 3d intercostal space, of affected side		
b. Mid-axillary line, 5 - 6th intercostal space, of affected side		
4. Prepare insertion site, using antiseptic solution		
5. Prepare catheter over needle device for insertion		
a. Connect catheter over needle to syringe		
b. Check syringe for ease of plunger motion		
6. Insert catheter over needle device		
a. Enter at the upper edge of the lower rib (e.g.… over the top of the 3d rib)		
b. Advance the needle while aspirating until air is returned		
c. Advance catheter and remove needle and immediately attach stop cock to catheter		
(1) Reconnect syringe to catheter via 3 way stop cock		
(2) Recheck air flow with syringe		
(3) Secure catheter in place		
7. Remove air from pleural space		
a. Evacuate pleural space using one of the following:		
(1) Syringe (at least 50cc) and 3-way stop cock to seal system when detaching syringe		
(2) Flutter valve on open end of catheter – otherwise left open to the atmosphere		
(3) Suction or sealed drain attached to catheter to seal off outside atmosphere		
b. Listen periodically for breath sounds		
8. Assess effectiveness		
a. Determine effectiveness of needle thoracenthesis in removing air		
b. Determine patient response to treatment		
c. Verbalize appropriate follow up actions for patient relieved by procedure		

PERFORMANCE ITEM	SAT	UNSAT
PERFORM NEEDLE THORACENTESIS FOR TENSION PNEUMOTHORAX - Continued		
*****CRITICAL CRITERIA**		
• Failure to verbalize body substance isolation precautions		
• Failure to recognize appropriate anatomical landmarks		
• Failure to ensure catheter is appropriately sealed to prevent air from returning into the pleural space		
FINAL RESULT:		

Volume 9 **Module 1.d**

AIRWAY MANAGEMENT: PERFORM FOREIGN BODY REMOVAL

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Airway Management

CFETP/STS REFERENCES: 18.12.2.1.4

EQUIPMENT REQUIRED:

1. Laryngoscope
2. Magill forceps
3. Supplemental oxygen equipment
4. Gloves
5. Suction apparatus

TRAINING REFERENCES: 6, 7, 8

REMARKS/NOTES: Failure to attempt Heimlich Maneuver first stops the test

OBJECTIVE: Given the necessary equipment and or anatomical model, perform a foreign body removal

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

STEPS IN TASK PERFORMANCE:

1. Identify indications and contraindications for foreign body removal
2. Select the appropriate equipment
3. Perform foreign body removal

ATTACHMENT: Performance checklist

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's OJT record.

VOL 9 MODULE 1.d **PERFORM FOREIGN BODY REMOVAL**

PERFORMANCE ITEM	SAT	UNSAT
PERFORM FOREIGN BODY REMOVAL		
1. Identify indications for foreign body removal		
a. Airway obstruction		
b. Heimlich maneuver unsuccessful in clearing airway		
c. Evidence of significant hypoxia		
d. Need to clear or control airway		
2. Select the appropriate equipment		
a. Laryngoscope		
b. Magill forceps		
c. Supplemental oxygen equipment		
d. Gloves		
e. Suction apparatus		
3. Perform foreign body removal		
a. Use laryngoscope to attempt visualization of foreign body in the same manner you would attempt oropharyngeal intubation		
b. If object is visualized, use Magill forceps and remove foreign body		
c. If foreign body is smaller and deeper, object may be removed using a suction device		
d. If object cannot be visualized, continue with basic maneuvers		
e. Consider the benefits from initiating needle cricothyrotomy with transtracheal jet ventilation		
***CRITICAL CRITERIA		
• Failure to attempt Heimlich Maneuver prior to advanced removal method		
FINAL RESULT:		

Volume 9 **Module 2**

MANAGEMENT OF THE MULTIPLE SYSTEM TRAUMA PATIENT

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Management of the Multiple System Trauma Patient

CFETP/STS REFERENCES: 18.12.2.3

EQUIPMENT REQUIRED:

1. B/P Cuff & Stethoscope
2. Long spine board with at least three straps
3. Cervical Collar (S/M/L)
4. Airway set
5. Airway suction unit with whistle tip catheter and rigid suction tip
6. Splint set
7. Bandage set
8. MAST garment (non-pneumatic is preferred)
9. IV supplies; bag, tubing and various intercaths
10. Supplies for universal precautions

TRAINING REFERENCES: 8, 11

REMARKS/NOTES:

1. Not insuring body substance precautions stops the test
2. Failure to secure/protect C-Spine and Airway stops the test
3. Items that correspond to NREMT refresher course may be signed off in the refresher course.
4. All other items must be evaluated by an individual qualified in the tasks.

OBJECTIVE:

1. Verbalize appropriate care in relationship to assessment findings
2. Identify threats to life and apply immediate intervention
3. Demonstrate competence in life support and patient packaging for transport

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

STEPS IN TASK PERFORMANCE:

1. Ensure safety and apply universal precautions
2. Demonstrate competence in establishing A B C D E's of trauma care
3. Conduct secondary survey and treat potentially life threatening injuries
4. Communicate with preceptor/HMTF
5. Package patient for evacuation

ATTACHMENT: Performance checklist.

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's OJT record.

VOL 9 MODULE 2 **MANAGEMENT OF MULTIPLE SYSTEM TRAUMA PATIENT**

PERFORMANCE ITEM	SAT	UNSAT
MANAGEMENT OF MULTIPLE SYSTEM TRAUMA PATIENT		
1. Ensure safety and apply body substance isolation precautions		
a. Recognize potential threats to patient & personal safety		
(1) Toxic substances		
(2) Unstable environment		
(3) Electrical hazards		
b. Don safety equipment		
(1) Face/Nose/Mouth protection for splash hazard		
(2) Latex gloves		
(3) Gowns when indicated		
2. Demonstrate competence in establishing A B C D E's of trauma care		
(Evaluate mechanism of injury, assess level of consciousness (AVPU), apply A B C D E s of trauma care, treat immediate life threatening injury)		
a. **Airway**: Secure airway, clear obstructions, perform cricothyroidotomy to bypass fixed obstruction, immobilize cervical spine, initiate oxygen therapy using appropriate flow rate for delivery system		
b. **Breathing.:** Evaluate rate, efficiency and adequacy of respirations		
c. **Circulation:** Check pulse, capillary refill and Blood Pressure. Control major bleeding		
d. **Disability:** Assess level of injuries: Check neurological status/pupils		
(1) Demonstrate ability to use GLASCOW coma scale		
(2) Verbalize potential life threatening injuries produced by mechanism of injury		
e. **Expose:** Physically expose victims chest and abdomen, check for signs of external hemorrhage, look at chest movement for asymmetric movement or retractions. Palpate abdomen for tenderness. Evaluate for internal hemorrhage		
3. Conduct secondary survey and treat potentially life threatening injuries		
a. Recheck ventilation in secured airway; Is patient still in respiratory distress? Evaluate for hypoventilation or paradoxical movement		
(1) Endotracheal intubation** should be performed to assist victim with respiration using bag/valve and high flow oxygen		
(2) Auscultate and reposition ET tube to ensure ventilation		

PERFORMANCE ITEM	SAT	UNSAT
MANAGEMENT OF MULTIPLE SYSTEM TRAUMA PATIENT (cont)		
(3) Unilateral breath sounds persisting after reposition of ET tube may indicate pneumothorax; percuss for unilateral timpani; if positive perform needle thoracentesis** (4th intercostal/mid axillary line)		
b. Apply three point occlusive dressing to chest wound		
c. Stop obvious hemorrhage		
d. For Hypovolemic patient secure two large bore intravenous catheters running crystalloid solution		
(1) Verbalize fluid of choice		
(2) Verbalize dangers of rapid infusion		
e. Examine for shock; verbalize signs and symptoms and vital sign criteria		
(1) Diaphoresis		
(2) Capillary refill greater than 2 seconds		
(3) Tachycardia; rapid weak pulse		
f. Place patient in trendelenberg position and keep warm		
4. Establish communications with preceptor/HMTF; verbalize procedure for urgent evacuation		
5. Package patient for evacuation		
***CRITICAL CRITERIA		
• Failure to verbalize appropriate body substance isolation precautions		
• Failure to initiate spinal precautions and assess ABC's appropriately		
• Failure to appropriately manage airway, breathing, bleeding, and treat shock		
FINAL RESULT:		

Volume 9 **Module 3.a**

PERFORM EMERGENCY CARDIAC CARE (ECC): ADDING MEDICATIONS TO INTRAVENOUS FLUID CONTAINERS

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Emergency Medicine Procedures; Perform Emergency Cardiac Care (ECC)

CFETP/STS REFERENCES: 18.3, 18.6, 18.12.2.4

EQUIPMENT REQUIRED:

1. Sterile Medication for IV Use
2. IV Solution and IV tubing {micro or macro drip set as required}
3. Tandem or Piggyback set-up
4. Antiseptic swabs
5. Sterile syringe of appropriate size (e.g. 5/10 mL)
6. Sterile needle – approximately 1-1 ½ in length, #20 or #21 ga
7. Medication Added Label

TRAINING REFERENCES: 9, 11, 12

REMARKS/NOTES: Recommend taking ACLS provider course.

OBJECTIVE: Administer intravenous medications IAW IDMT protocols for emergency cardiac care emergencies.

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to patient safety.

CRITICAL STEPS IN TASK PERFORMANCE:

1. Ensures "5 rights" of medication administration
2. Practices universal precautions and maintains sterile technique as required
3. Administers medication as ordered by preceptor and in accordance with treatment protocols
4. Monitors both infusion and patient for signs of therapeutic response or adverse reaction

ATTACHMENT: Performance checklist.

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's OJT record.

PERFORMANCE ITEM	SAT	UNSAT
ADDING MEDICATIONS TO INTRAVENOUS FLUID CONTAINERS		
1. Verify potential patient drug allergies		
2. Verify the medication order for accuracy, confirm compatibility of drugs and solutions to be mixed: *Right Drug, Right Patient, Right Dose, Right Time, Right Route*		
3. Prepare medication from a vial or ampule		
4. Confirm sterility, locate and clean injection port with antiseptic swab.		
5. Inject the correct dose of medication into the container – ensure correct dilution		
6. Keep the IV *flow clamp* closed until proper dilution is assured; gently rotates and mixes		
7. Attach a medication label with patient name, drug, dose, date/time, IDMTs name		
8. Establish infusion; open *flow clamp* and regulate the rate required by the dosage.		
9. Monitor flow rate and patient: Observe for therapeutic response or adverse reaction.		
10. Can state local policy for action in the event of reaction, e.g. slow or stop IV flow		
When Using Non-Vented Containers		
1. Follow steps 1-2-3-4 listed above.		
2. Detach air vent cap without contaminating the end [from the IV administration set]		
3. Insert tip of syringe [no needle] and instill medication		
4. Reattach air vent		
5. Follow steps 6 -7-8-9-10 as described above.		
Using Additive Sets to Administer Intravenous Medications:		
1. Sate clear understanding for use of additive sets: primary solution incompatibility; timing of administration, or to maintain peak levels by simultaneous infusion.		
2. Verify potential patient drug allergies		
3. Verify the medication order for accuracy, confirm compatibility of drugs and solutions to be mixed: *Right Drug, Right Patient, Right Dose, Right Time, Right Route*		
4. Add medication to the additive set		
5. Apply additive label		

PERFORMANCE ITEM	SAT	UNSAT
ADDING MEDICATIONS TO INTRAVENOUS FLUID CONTAINERS (Continued)		
6. Assemble secondary infusion, spike, and hang at or above level of primary infusion.		
7. Attach 1 inch needle to tubing set, prime, close the clamp		
8. If medication is not compatible with the primary solution: The IDMT flushes the primary IV line with sterile saline before attaching the secondary set after clamping off the primary line.		
9. Insert needle of secondary line through port on primary line		
10. Attach secondary set to the primary set after cleaning the "Y" port furthest from patient for Piggyback and closest to the port for a Tandem set-up.		
11. Administer medication at desired rate		
a. Piggyback medications are usually given over a 30 to 60 minute period		
b. Tandem infusions may be continuous or intermittent		
12. Document relevant data: I&O, date, time, medication, dose, route, and solution.		
FINAL RESULT:		

PERFORMANCE ITEM	SAT	UNSAT
ADMINISTER INTRAVENOUS MEDICATIONS BY VOLUME CONTROL ADMINISTRATION SETS		
1. Verify potential patient drug allergies		
2. Verify the medication order for accuracy, confirm compatibility of drugs and solutions to be mixed: *Right Drug, Right Patient, Right Dose, Right Time, Right Route*		
3. Prepare medication from an ampule or vial.		
4. Attach volume-control set to infusion container		
a. Open air vent clamp on the volume-control set		
b. Position lower clamp on tubing below drip chamber and clamp		
5. Fill volume-control device and prime tubing		
a. Fill fluid chamber with approximately 30 ml and clamp		
b. Ensure sufficient fluid in drip chamber to dilute the medication [normally 50 – 100 ml is used…verify using appropriate literature]		
6. Clean injection port with antiseptic swab and administer medication		
7. Rotate fluid chamber to mix medication		
8. Open upper clamp and regulate flow as required via device below drip chamber		
9. Attach medication label to volume-control chamber.		
10. Document pertinent data and monitor patient and infusion		
Administering Medication Using IV Push		
1. Verify potential patient drug allergies		
2. Verify medication order for accuracy, confirm compatibility of drugs and solutions to be mixed: *Right Drug, Right Patient, Right Dose, Right Time, Right Route*		
3. Prepare medication to be administered and syringes with Heparin or saline flush; each syringe is appropriately labeled with drug and dose/dilution		
4. Administer medication		
a. *Using an existing IV line*		
(1) Don gloves		
(2) Inspect site for signs of infiltration		
(3) Select port nearest patient		
(4) Clean port with antiseptic swab		
(5) Stop IV flow above port		
(6) Insert needle into the port		
(7) Draw back on syringe to ensure patency (blood flash)		
(8) Inject medication at the ordered rate		
(9) Reestablish IV infusion at previous rate; IDMT expresses intent to flush vein with IV fluid when following irritating medications		

PERFORMANCE ITEM	SAT	UNSAT
ADDING INTRAVENOUS MEDICATIONS BY VOLUME CONTROL ADMINISTRATION SETS (Continued)		
b. *Using an IV lock set [Heparin or Saline]*		
(1) Don gloves		
(2) Swab port		
(3) Attach saline filled syringe to port and aspirate for blood return		
(4) Inject 0.5 to 2.0 ml of saline to flush line and verify patency of access		
(5) Remove saline filled syringe		
(6) Attach medication filled syringe		
(7) Inject medication slowly at desired rate		
(8) Remove medication syringe after all medication is administered		
(9) Attach a second saline syringe* and flush with appropriate amount of saline		
(10) *When Heparin is used complete saline flush first and then attach and inject Heparin into the lock tubing set		
(11) Express knowledge that patency of IV lock should be checked at least every eight hours and that IV lock should be changed no later than every 72 hours.		
FINAL RESULT:		

AEROSPACE MEDICAL SERVICE SPECIALTY – IDMT

BIBLIOGRAPHY AND OTHER REFERENCES

1. *Advanced Cardiac Life Support Provider Manual*. Current edition. American Heart Association.
2. *Advanced Trauma Life Support Student Manual*. 6th ed. Chicago, IL. 1997. American College of Surgeons.
3. AFI 36-2104, Nuclear Weapons Personnel Reliability Program, 29 May 2003
4. AFI 48-102, Medical Entomology Program, 6 December 1993
5. AFI 48-116, Food Safety Program, 19 July 1994
6. AFI 48-117, Public Facility Sanitation, 6 May 1994
7. Bickley LS. *Bates Guide to Physical Examination and History Taking*. Current edition, Philadelphia, PA: JB Lippincott, Williams and Wilkins.
8. Caroline NL. *Emergency Care in the Streets*. 5th ed. (pp 226-245; 953-1014). New York, NY: Little, Brown and Company, 1995.
9. Crowley SR. *Sexual Assault: The Medical-Legal Examination*. Stamford, CT: Appleton & Lange, 1999.
10. McBride LJ. *Textbook of Urinalysis and Body Fluids: A Clinical Approach*. Upper Saddle River, NJ: Lippincott, Williams and Wilkins. 1998.
11. Pfenninger JL, Fowler GC. *Procedures for Primary Care Physicians*. St. Louis, MO: Mosby, 1994.
12. Phillips LD. *Manual of I.V. Therapeutics*. 3rd ed. FA Davis Company,2001.
13. Stewart CE. *Advanced Airway Management*. Upper Saddle River, NJ: Pearson Education. Brady, 2002.